

Minuteman Missile

Junior Ranger Program 12 & Up

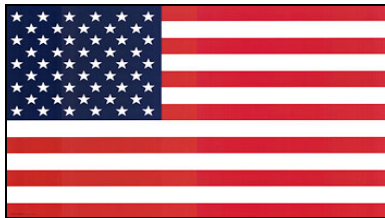
National Park Service
U.S. Department of the Interior

Minuteman Missile
National Historic Site
Southwestern South Dakota



Welcome Junior Rangers to Minuteman Missile National Historic Site! Minuteman Missile is part of the National Park system. Minuteman Missile is the only National Park unit that tells the story of **the Cold War**.

The **Cold War** lasted from 1945-1989. During that time there was a long and troubled conflict between the **United States and Soviet Union**. This war was characterized by a huge weapons buildup on both sides. These weapons included nuclear missiles, such as the Minuteman. These nuclear weapons were so destructive that they were used to keep one side from attacking the other. These weapons would only be used a last resort.



United States

Versus



Soviet Union

Minuteman Missile National Historic Site is made up of two areas, Launch Control Facility Delta-01 and Launch Facility Delta-09. Beneath the Launch Control Facility is an underground Launch Control Center. In the event of a Soviet nuclear strike against the United States, this underground launch control center is where Air Force officers known as missileers could launch Minuteman Missiles. Launch Facility Delta-09 is a missile silo with a Minuteman II missile on display.



Launch Control Center Delta-01



Launch Facility Delta-09

Your mission: This Junior Ranger program is made up of the following four missions.

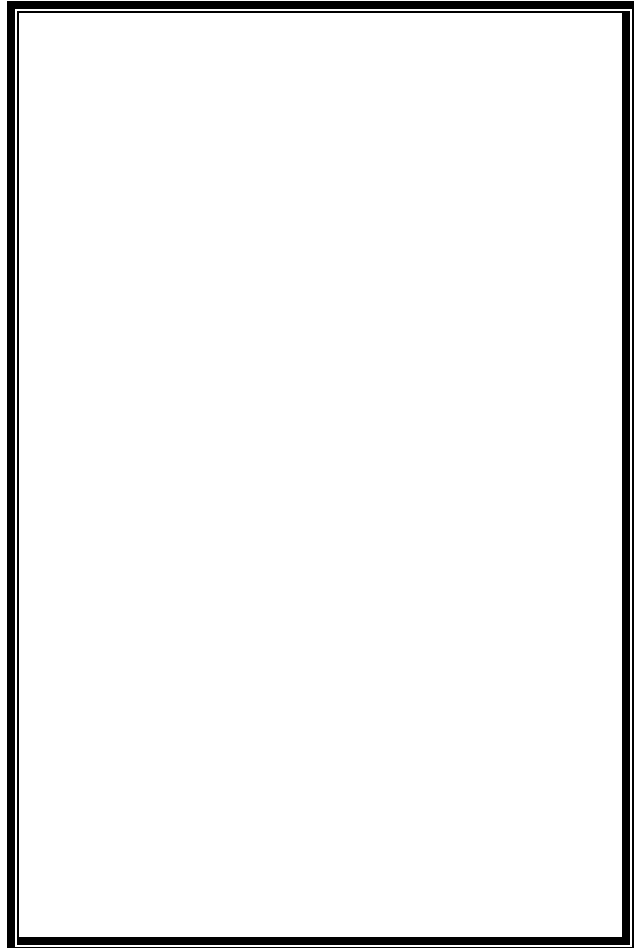
- 1. Countdown: Blast Door Art**
- 2. Ready for launch: Secret Codes**
- 3. Launch in Process: Civil Defense**
- 4. Launch: Putting It All Together**

Choose any three of these missions to complete the program. Once you have completed the program mail the packet or give it to the ranger so they can grade your work.

Mission 1 - Countdown: Blast Door Art

The 150 Minuteman Missiles in South Dakota were known as the 44th Missile Wing. The Air Force personnel who worked with these missiles took great pride in protecting the United States. Missileers developed artwork to paint down in the Launch Control Center in order to display their sense of mission. The blast door shown below symbolizes how the missile personnel felt about the strength of the Minuteman system and the Air Force.

Your mission: Study the blast door below, then design, draw and color your own blast door in the space provided



Mission 2 – Ready For Launch: Secret Codes

Many of the Air Force personnel that worked in the missile field gained entry to launch control centers and silos by authenticating secret codes. Top secret codes were also used for security and would be used to perform missile launches.

The phonetic alphabet was used by Air Force personnel when authenticating these codes. The phonetic alphabet assigns code words to the letters of the alphabet. By pronouncing the letters as words, voice messages by radio or telephone are easier to understand. Study the phonetic alphabet below as you prepare to decode a message.

A	Alfa (AL fah)	N	November (no VEM ber)
B	Bravo (BRAH VOH)	O	Oscar (OSS cah)
C	Charlie (CHAR lee)	P	Papa (pah PAH)
D	Delta (DELL tah)	Q	Quebec (keh BECK)
E	Echo (ECK oh)	R	Romeo (ROW me oh)
F	Foxtrot (FOKS trot)	S	Sierra (see AIR rah)
G	Golf (GOLF)	T	Tango (TANG go)
H	Hotel (hoh TELL)	U	Uniform (YOU nee form)
I	India (IN dee ah)	V	Victor (VIK tah)
J	Juliett (JEW lee ETT)	W	Whiskey (WISS key)
K	Kilo (KEY loh)	X	X Ray (ECKS RAY)
L	Lima (LEE mah)	Y	Yankee (YANG key)
M	Mike (MIKE)	Z	Zulu (ZOO loo)

Your mission: assign each letter of the phonetic alphabet a number in ascending order. For example: Alpha will be 0, Bravo 1, Charlie 2 all the way to Zulu which will be 25.

Below you will find a series of coded messages which must be decoded to answer the questions which follow them.

1. Message: Bravo – Foxtrot - Alpha

Question: Number of Minuteman Missiles in the South Dakota during the Cold War?

_____.

2. Message: Lima - Tango – Golf - Bravo

Question: The groundbreaking to build Minuteman Missile silos across Western South Dakota occurred on September _____ of _____.

3. Message: Tango – Juliet - Bravo

Question: The year Minuteman Missiles were taken off alert in South Dakota

_____.

4. Message: Foxtrot – Alpha - Alpha

Question: Number of Minuteman Missiles still operational in the United States? _____

Mission 3 – Launch in Process: Civil Defense

As the Cold War progressed, the fear of a nuclear attack from the Soviet Union also increased. Regular people were looking for a way to protect their families from a nuclear attack. During the early 1960s, America's backyards became spots for swingsets, barbecues and bomb shelters. This was known as Civilian Defense and is best represented by bomb shelters and "duck and cover drills". There were many different kinds of bomb shelters built in the United States and it was estimated that in 1960 there were just over 1,500 bomb shelters across the country, a mere five years later that figure increased to over 200,000.

A shelter was typically an underground room that needed to contain enough supplies for a family to live for two weeks without ever leaving. Food, water, radios, flash lights and entertainment were stored as well as sanitary and medical supplies. The bomb shelter became a constant reminder that the frontlines of the Cold War were everywhere. In the picture below, you can see an example of family in a bomb shelter filled with supplies.



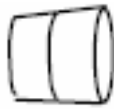
Your Mission: What 3-4 items would you take into a bomb shelter and why.

Mission 4 –Missile Away: Putting It All Together

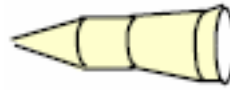
Study the following parts that make up a Minuteman Missile, and then turn to the next page to find out **Your Next Mission!**



A. Second Stage Motor - this goes in the middle of the missile and provides it further boost after the first stage has burnt out



B. Missile Guidance – this tells the missile where to go, it is just beneath the nosecone



C. Nosecone - this contains the warhead, it is at the top of the missile



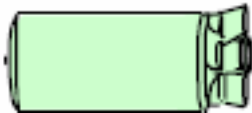
D. Interstage - this piece goes between the first and second stages



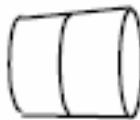
E. Skirt – this covers the first stage rocket's nozzle and tail at the bottom of the missile



F. First Stage Motor – this stage launches the missile out of the silo and into the air, it is the lowest stage on the missile



G. 3rd Stage Motor - this gives the missile its final boost, it is located above the second stage



H. Interstage 2 – this piece goes between the second and third stages

Putting together a Minuteman missile is tough stuff. The missile is made up of thousands of individual parts. These parts must fit together perfectly so the missile will work. If even one part is in the wrong place the missile will not launch.

Your mission: Fortunately there are only eight Minuteman missile parts on the previous page. See if you can put all these parts in the correct working order, from top to bottom. Write your answers below, starting from the top and working your way down.

_____ (Top piece)

_____ (Bottom Piece)



Congratulations! You have now completed the Minuteman Missile Junior Ranger program. To make sure you receive an official Junior Ranger certificate and patch, write your name and address in the spaces provided below.

Name: _____

Address: _____

Our Mailing Address: Minuteman Missile National Historic Site
21280 SD HWY 240
Philip, SD 57567

